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IN THIS ISSUE

THE MEXICAN BEEF-CATTLE INDUSTRY

LEGISLATION IN TANGANYIKA AFFECTING CROP PRODUCTION

CANADIAN ACT TO SUPPORT AGRICULTURAL PRICES

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By Mervin G. Smith*

Cattle raising is one of the basic and most important agricultural enterprises in Mexico, and beef cattle are among the principal agricultural products which that country exports to the United States. During the past 5 years, the value of Mexican cattle exports has been exceeded only by that of henequen. Exports of cattle in 1943 were valued at nearly \$10,000,000; those of henequen at about \$12,000,000. Most of the cattle exported are produced in northern Mexico and are sent to the United States as stocker and feeder animals to be finished there for slaughter. During the years 1939-43, these shipments averaged about 500,000 head annually.

The production of calves in Mexico each year is roughly valued at \$25,000,000. Compared with the other agricultural products raised, this value is exceeded only by that of the corn crop, which in 1940 was estimated at approximately \$32,000,000. The returns from cattle in that country are about equal to those from 30,000,000 acres of its cultivated land. The cattle industry is widely distributed throughout the Republic, and, in addition to contributions to the nation's export trade, it supplies raw materials for such industries as slaughtering and meat distribution, tanneries, and shoe and leather manufacturing.

HISTORY

Cattle production in the Western Hemisphere had its beginning soon after the discovery of America, and Mexico was one of the first American countries into which cattle were introduced. Columbus, on his second voyage, brought cattle to Santo Domingo in December 1493. The date of the first shipment to Mexico is not known, but there are records of cattle arriving there from Santo Domingo in 1521. The present city of Cuernavaca, meaning "cow horn," is located near the original ranch of that name which Cortez established with cattle brought from his ranch in Cuba; this name, however, may have come from a corruption of the original Indian name for the locality.

Most of the early cattle introduced into Mexico came from the Spanish Peninsula, where climatic and grazing conditions are much like those in Mexico; hence, the animals readily became adjusted to their new environment.

Early Developments of the Industry

The cattle brought to Mexico multiplied rapidly, and in 1540, only 19 years after the first cattle arrived there, Coronado was able to assemble approximately 500 head, in addition to large numbers of sheep, goats, and hogs, which he took with him on his search for the "Seven Golden Cities of Cibola" in what is now New Mexico. These were probably the first cattle to enter the present area of the United States.

On his long trip northward through Mexico, Coronado left many of these animals along his route. Reports state that 25 years later large numbers of cattle were running wild in what is now the State of Sinaloa, and before the end of the sixteenth century many were being rounded up each year in the areas now comprising the States of Jalisco, Durango, and Chihuahua.

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Importations of Breeding Stock

During the colonial period, nearly all the cattle imported into Mexico, like the first arrivals, came from Spain, but later some were obtained from other parts of Europe. These early imports were the foundation of a large proportion of the cattle now in Mexico, which are commonly known as criollos. Some of these cattle closely resemble the early Longhorns found in the southwestern part of the United States, except that they are smaller in size. The cattle now used in Mexico for bullfights probably are more like the Texas Longhorns than most other cattle.

Nearly all the important breeds of cattle have been introduced into Mexico, but attempts to import good breeding stock on any scale probably were not made until 1920, when fairly large numbers of Herefords were imported. Some of the early imports consisted of Shorthorns and Brown Swiss brought in for use as dairy animals. Of the beef breeds imported in recent years, the Hereford has comprised by far the largest number. The first of this breed is reported to have been imported in 1876. Prior to that year the first Shorthorns for beef production were imported into the State of Chihuahua in 1874. Brown Swiss were first imported in 1870, but only during the past 10 or 15 years have significant numbers of this breed been imported. The first Devonshires were imported in 1879, Galloways in 1880, Dutch Belted in 1882, Brahmans in 1884, Red Polled in 1910, and Aberdeen Angus and Charollais, a French breed, in 1928.

Brahmans were first imported extensively in 1924. They are somewhat difficult to handle, but they have advantages over the other breeds in that they are more resistant to ticks and therefore more adaptable to tick-infested areas; they also are more adaptable to the hotter climates along the coast. They are not so highly favored for beef in the United States as some of the other breeds and consequently do not command as high prices in Mexico when sold for export. Nevertheless, they have been used extensively in crossing with other cattle, since the resulting offspring are superior to the old Spanish breed.

FACTORS AFFECTING PRODUCTION

The cattle industry in Mexico is influenced by both rainfall and temperature. In nearly all of the country, except along some of the Gulf coast, there are a rainy season and a dry season. Seasonal variations in rainfall are greater than those in temperature. The rainy season usually begins about June and ends about October or November. During these months pastures improve, and grass is usually plentiful. Water holes are filled, and cattle need not go far for water. For 2 or 3 months after the rainy season, pastures continue to grow and are in fair condition; also the weather is slightly cooler and more favorable for the growth of grass.

Because of lack of moisture and warmer temperature, starting about March, the pastures begin to deteriorate, and the smaller and less certain water holes and streams begin to dry up. This situation will vary from year to year according to the amount of rainfall and the supply of water accumulated in the previous rainy season. In some years conditions become so critical in certain areas, especially in the northern part of the country, that by April or May cattle need to be moved to sections where water and pastures are more plentiful. At times, from 5 to 30 percent of the breeding stock in some areas may be lost because of the severity of droughts in the late spring and early summer.

Temperatures range from very hot in the coastal regions to quite temperate and cool in some of the higher mountain ranges. Cattle production is more hazardous in the coastal regions because of excessive heat, high humidity, and the plagues of diseases and insects that are more prevalent there than in higher altitudes. Good types of cattle that thrive well in these areas and are resistant to diseases have. been difficult to find. Grasses grow more luxuriantly in these coastal regions than in the central higher regions, but they are of coarser types and less nutritious.



FIGURE 1.-Cattle on terrain that is typical of certain parts of Mexico.

Pasture and Feed Available

Cattle production in Mexico is dependent almost entirely on pasture as a source of feed. Grain production is limited and even insufficient for human needs. Grain feeding of cattle, therefore, is virtually unknown. Except in the coastal regions, the grasses and types of pasture are limited by the seasons of rain and by the frequent long period of drought. Only certain types and varieties of plants are able to withstand the long dry season that occurs regularly over widespread areas. In addition to the native grasses, there are numerous shrubs, browse, and other plants adapted to semiarid conditions, which livestock utilize to a great extent. These shrubs are commonly known as "chaparral." One of the most important is the mesquite. Chaparral is highly important in some seasons, because it aids in keeping down losses from starvation and in carrying cattle over until the rainy season. Nopal and other varieties of cactus are also sometimes used in certain seasons. The thorns of the cacti are sometimes burned off so that the cattle can eat the plants more readily.

In the lower elevations near the coast, the grasses most commonly used are guinea and Pará grass, both of which are planted or sown. Pará grass is more adaptable to conditions of excessive moisture and poor drainage, whereas guinea grass is usually planted on higher ground. Both grow luxuriantly but are considered only medium in quality for grazing and forage.

Little or no feed is stored to carry cattle through a dry season, and much could be done to improve feeding methods and to increase the productivity of pastures.

Diseases and Pests

The prevalence of diseases and pests and the lack of their control are serious hindrances to cattle production. Losses from disease are estimated at more than

\$600,000 annually. Most of the losses from disease are caused by blackleg, anthrax, and piroplasmosis. Death losses from different causes in 1938 were estimated by the Mexican Livestock Service at 352,397 (table 1), which estimate is believed to be conservatively low.

TABLE 1.-Estimated death losses among cattle in Mexico from specified causes, 1938

CAUSE	DEATH LOSSES	PERCENTAGE OF TOTAL	CAUSE		PERCENTAGE OF TOTAL
Actinomycosis	44,910 12,981 8,095 70,878 20,468	0.2 12.8 3.7 2.3 20.1 5.8	Piroplasmosis	12,066 97,761 916 23,071	17.1 3.4 27.7 .3

Compiled from official statistics.

One of the most serious diseases of cattle in Mexico is splenetic fever caused by a tick. This tick thrives in the subtropical and tropical regions, where the best pastures also are to be found. The Livestock Associations and the Mexican Livestock Service are working to control it, but only a small part of Mexico is tick-free; namely, the State of Chihuahua and the northern part of Sonora.

Another disease that has been troublesome at times is scabies. A few years ago a serious outbreak occurred in the State of Chihuahua, but local cattlemen and the Livestock Union of Chihuahua through cooperation were able to eliminate it. Except for one outbreak in the southeastern States (beyond the Isthmus of Tehuantepec) in 1926, Mexico has remained entirely free from foot-and-mouth disease. Tuberculosis is only rarely found among the beef cattle on the ranges, but among dairy herds or cattle more closely confined it is common, and ranchers need to be cautious in buying breeding stock.

Drought and the lack of adequate pastures cause more deaths than any one disease. Lice are common in most sections of Mexico. Some losses in cattle result each year from poisonous plants, a number of which grow in Mexico, but little is known as to their effects or as to their distribution throughout the country. One of the most common is the locoweed (Astragalus).

Government Land Policies and Livestock Regulations

Cattle raising in Mexico is definitely affected by governmental policies and regulations. For a number of years, under the Agrarian Law of 1915, agrarian squatters were allowed to settle on and take over land suitable for cultivation within the boundaries of large ranches, with the result that some of the ranches are now separated into parcels, which make them difficult to handle as a unit. These developments are said to have had the effect of discouraging cattlemen from making ranch improvements.

Expropriation of land has greatly decreased in recent years, and on July 28, 1942, the Mexican Government made it possible for decrees of inaffectibility to be granted to ranch owners, thereby assuring them protection against agrarian encroachment on land that is suitable for livestock purposes only. In order to get a certificate of inaffectibility, the owner must possess at least 500 head of beef cattle, must have owned the land for at least 6 months and have agreed to use it to the fullest extent for livestock, and must fulfill other minor requirements. Ranchers who have

obtained such a decree of inaffectibility are required to deliver 2 percent of the bull calves produced each year for distribution to ejidos (communal-type organizations of small farmers) and colonists or small operators for the improvement of their cattle.

There are still some problems in connection with the purchase of land in Mexico. Foreigners are prohibited from purchasing land within 100 kilometers (about 62 miles) of a national frontier or within 50 kilometers inland from any coast. In general, holdings of irrigated land over 100 hectares (247 acres) in size, or the equivalent of this, can be expropriated unless otherwise guaranteed by the decree of inaffectibility.

In the past few years the Mexican Government has become more interested in the welfare of the livestock industry and has enacted various regulations affecting it. Attempts are being made to control exports and prices, to assure a sufficient supply of beef for the domestic market, and to establish disease- and pest-control and quarantine measures. More interest is being shown in the encouragement of livestock production among small producers. Possibly further efforts will be made to provide credit and to assist small operators in management problems.

PRODUCTION

According to recent reliable estimates, there are about 12,000,000 head of cattle in Mexico. The last complete census, which was taken in 1940, showed a total of 11,603,000 head (table 2). The only other complete census of cattle was made in 1930.

Reproductive Rate

According to the census taken in 1930, about 38.5 percent of all cattle were breeding animals, 20 percent were young cattle kept for breeding, 20.3 were calves,

17.5 were oxen used for working, and about 3.5 percent were fattening cattle. This classification did not show the proportions likely to be sold as feeders or stockers.

Experienced cattlemen estimate that the yearly calf crop in Mexico averages about 60 head per 100 cows maintained. About 10 percent of these calves are lost after birth, making the net calf crop only slightly above 50 percent. On the ejidos the calf crop probably averages only 40 percent, whereas on some of the better ranches in the northern part of the

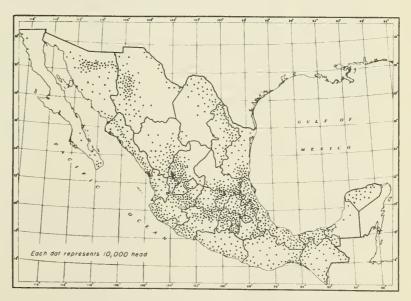


FIGURE 2.—Map of Mexico showing distribution of cattle by States.

country as high as 90 percent is obtained. In general, the percentage is higher in the northern part of the country than in the central part. In the United States the yearly calf crop averages about 80 head per 100 cows kept.

On the basis of the indicated number of calves raised per 100 cows, the annual production of calves in Mexico is estimated at about 2,400,000 head. The value of these calves might be roughly estimated at \$25,000,000.

TABLE 2.-Number of cattle in Mexico, by States, according to census of 1902,

		TABLE 2Number of cattle in Mexico, by States, according to census of 1902, 1930, and 1940.								
GEOGRAPHIC DIVISIONS	1902	1930	1940	PERCENTAGE 1940 OF 1930						
NORTH ZONE Coahuila Chihuahua Durango Nuevo Leon San Luis Potosi Tamaulipas Zacatecas	Thousands 182 396 233 123 175 178 190	Thous ands 226 685 320 300 324 340 541	Thousands 303 907 449 411 444 407 665	Percent 134 132 140 137 137 120 123						
Total	1,477	2,736	3,586	131						
GULF ZONE Campeche	42 - 106 393 182	33 1 160 743 102	57 2 254 919 182	173 200 159 124 178						
Total	723	1,039	1,414	136						
NORTH PACIFIC ZONE Baja California, N.D. Baja California, S.D. Nayarit. Sinalca. Sonora	52 152 106 261	32 106 182 417 705	30 93 201 489 716	94 88 110 117 102						
Total	571	1,442	1,529	106						
SOUTH PACIFIC ZONE Colima	51 191 163 105	41 362 409 392	49 419 410 375	120 116 100 96						
Total	510	1,204	1,253	104						
CENTRAL ZONE Aguascalientes Federal District Guanajuato Hidalgo. Jalisco. Mexico Michoacán. Morelos. Puebla Querétaro. Tlaxcala	50 12 274 50 664 108 498 51 79 65	65 49 527 210 1,068 368 779 77 341 128	68 58 486 265 1,122 442 732 117 347 124 60	105 118 92 126 105 120 94 152 102 97						
Total	1,862	3,662	3,821	104						
GRAND TOTAL	5,143	10,083	11,603	115						

Compiled from official statistics.

Area of Production

Cattle are produced in every State of Mexico, but the largest concentration is in the central part of the country in the States of Jalisco and Michoacán (fig. 2). There are more cattle per capita and larger individual herds in the northern States. In general, the carrying capacity of the pastures is greater in the central part of

the country than in the northern part. The five leading States in number of cattle, according to the 1940 census, were Jalisco, Veracruz, Chihuahua, Michoacán, and Sonora. The available statistics make no distinction between dairy cattle, beef cattle, and cattle kept for work.

The greatest concentrations of dairy cattle are around the larger population centers of Mexico City, Guadalajara, Monterrey, and Puebla. In many of the outlying range sections cattle are seldom used for milking purposes; the milk consumed is usually obtained from goats. Beef cattle predominate in all parts of the country, except near the large population centers and possibly in semicommercial, dairying areas in the northeastern part of the State of Jalisco.

The greatest increase in cattle numbers since 1930 has been in the northern zones of the country, especially in the States of Chihuahua, Durango, Nuevo León, Coahuila, Zacatecas, Tamaulipas, and San Luis Potosí. Considerable increase also has taken place in the Gulf Zone in the States of Tabasco, Campeche, Veracruz, and Yucatán. Slight decreases have occurred in Lower California and in some of the Central States.

Type of Cattle Produced

In 1930 the census figures indicated that about 11 percent of the cows and about 10 percent of the young cattle in the country were classified as purebred. The proportion now is believed to be considerably higher. Cattle on many of the large ranches in the northern part of the country are of superior quality as a result of extensive use of purebred bulls in breeding up the herds. Ranchers in the States of Chihuahua and Sonora estimate that over 60 percent of the cattle in those States are virtually purebred Herefords. In the central and southern parts of the country most of the purebred cattle are of dairy types. Many of the herds in the hot coastal areas contain a high percentage of Brahman blood.

Landholdings and Methods of Production

Cattle are produced and kept on many types and kinds of farms and ranches and under different conditions. In 1940 about 44 percent of the cattle were on privately owned farms or ranches; 32 percent were in cities, towns, or villages; about 23 percent were on ejidos; and about 1 percent were on public lands. The northern part of the country, especially the North Pacific Zone, had the largest proportion on privately owned farms and ranches. More were on ejidos in the central and southern parts of the country. The Central Zone had the largest proportion in cities, towns, or villages, and the assumption is that a large part of these were cattle used for dairy purposes.

Privately Owned Ranches

The larger ranches of northern Mexico range from 50,000 to 175,000 acres in size, whereas those in other parts of the country, where grasses grow more luxuriantly, are mostly from 1,000 to 50,000 acres. The number of cows on each ranch will vary from 400 to 10,000 head, with a proportionate number of other cattle.

The value of the land used for cattle production varies according to locality, climate, topography, soil, type of vegetation, improvements, transportation facilities, and the general price level. Land values have increased in the last few years. Undeveloped land in the northern part of the country has been selling recently for from 50 cents to \$1.25 per acre. Improved land sells for as much as twice the cost 614266 0-44 2

of unimproved land. In the central part of the country land for grazing costs from \$2.00 to \$4.00, and the best land in the Huasteca area, at least \$10.00 per acre.

Some land is leased for grazing purposes at a rate of from 10 to 20 cents per head per month and the Huasteca area, as high as 30 cents. Land may be leased for periods of from 7 to 10 years or longer. Some of the operators under this arrangement are citizens of the United States.

Methods of handling cattle vary with each kind of farm and ranch. The large ranches in the northern part of the country, where cattle are produced for export, are operated somewhat differently from those in the central, southern, and coastal regions. In the northern section cattle are produced mostly to be sold as feeders or stockers and are shipped elsewhere for fattening for slaughter, usually to the United States. In this section the pastures generally are not sufficiently productive to permit fattening and maturing cattle to desired slaughter conditions. In the central, southern, and coastal regions the cattle are usually raised and fattened on the same ranch. In the Huasteca area, comprising northern Veracruz, southern Tamaulipas, eastern San Luis Potosi, and northern Hidalgo, grasses grow more abundantly than in other parts of the country, and cattle purchased in other areas are brought there for fattening. In general, the cattle, as well as the type of management, on the ranches that produce for domestic consumption are inferior to those on ranches producing for export. Many of the ranchers producing cattle for export in the northern part of the country were originally from the United States or have spent considerable time there. Thus they are familiar with the practices followed in the United States and with the types and grades of cattle most desired.

Ejidos

An ejido is an agrarian community consisting of 20 or more eligible individuals to whom the Government has given limited ownership of land under the agrarian laws growing out of the Revolution. This land may be owned and worked either individually or collectively. Some ejidos are much more favorably located for producing cattle than others. On most of them, cattle are individually owned by families, but they are pastured collectively on the ejido range lands. A boy or an elderly man usually watches the livestock during the day. In the evenings they are brought to the buildings, where each family cares for its own animals. Often all types of livestock are pastured together.

There are a few ejidos of the collective type on which livestock are cooperatively owned. In these cases the returns are divided under some system based upon contributions in the form of days worked and participation in the care and financing of the animals. One of the largest ejidos of this type is the *Nueva Italia Ejido* in the State of Michoacán. It has about 80,000 acres, comprising 25,000 under irrigation, 7,000 under nonirrigated cultivation, 30,000 of level pasture land, and 18,000 of mountainous range. There are about 10,000 head of cattle on the ejido.

Breeding Practices

Most of the ranchers in Mexico do not have a definite breeding program. All the livestock, including bulls, cows, young breeding stock, and cattle for sale, run together in the pastures during the entire year. Calves are born during all months. Many of the births occur when the cows are thin and weak, thus greatly reducing the percentage of calves saved. Sales are usually made in the fall or winter, at which time the cattle are usually in best condition. Only those that are fully matured and

in good flesh are culled out of the herd to be sold. Under existing conditions, little breed improvement is possible. Improvement is dependent upon changing management practices; providing better facilities, such as water supply and fences; and education as to breed improvement and care of livestock.

On some of the better ranches, especially in the northern part of the country, a definite breeding program is followed. Plans are made for the calves to be born in February, March, and April. By the time pastures are in good condition, these calves are



pastures are in good con- FIGURE 3.-Livestock belonging to an ejido grazing on gama grass.

old enough to do some grazing. By the following winter or spring, they are ready for export as stocker cattle. Bulls are kept apart from the cows during much of the year and are only turned in with them during the summer months. On some of the better ranches, cattle are kept separate according to age and class.

Each year some of the better ranches import a number of breeding bulls. The Mexican Government, under President Calles, encouraged herd improvement during the middle and latter part of the 1920's. During the depression years of the 1930's, prices of cattle were low, and less attention was given to herd improvement. During the past few years, however, prices have been more favorable, and there has been a greater interest in importing breeding stock. In 1943, imports of cattle from the United States for beef-breeding purposes totaled 3,688 head. Most of these were young Hereford bulls.

Most of the ejidatarios are not familiar with good breeding practices or with the qualities desired in good beef cattle. Because of the lack of equipment, such as fences, corrals, and watering facilities, they find difficulty in operating according to the most approved practices. Cattle raised by them are not only for the production of beef and milk but also for use as draft animals. Most of the heifers are kept for breeding. Bull calves are seldom castrated before they are 2 or 3 years of age. The stronger animals are used for working. When they are no longer suitable for this, they are sent to the slaughterhouse, or used for meat on the ejido. Thus far, little improvement has been made with cattle on the ejidos, except that the Government has arranged to supply the ejidatarios with good bull calves.

Pasturing and Feeding

Only operators of the most improved ranches give good care to pastures and use some system of pasturing. Where the ranch is subdivided into a sufficient number of pastures, the cattle are moved from one to another often enough to prevent the pastures from being grazed too closely. On other ranches, where pastures are not divided by fences, the cattle are herded from one place to another by the ranch workers. Cattle are on the range the entire year. Often the best pastures are used for certain classes of cattle, such as those about to be sold, or the bulls that need to be conditioned for breeding.

The usual carrying capacity of much of the pasture land in the central and northern parts of the country is 1 animal to 10 or 18 acres. Some land, however, will carry only 1 head to 25 or 30 acres. Some of the best land in the Huasteca area carries 1 animal to 1.5 acres.

In the coastal areas, pastures planted to Pará and guinea grasses are usually well cared for and conserved. In order to grow these grasses, the land usually is cleared and planted to corn. The grasses are then planted between the corn rows. In planting Pará grass, the workman goes down the corn rows with a bunch of the grass under his arm and drops pieces on the ground, covering them with soil. Guinea grass is propagated by seeds sown in little furrows between the corn rows. Occasionally, these grasses are planted on newly cleared land. Usually in the following spring the grass is burned over to remove any remaining brush, stubs, or other vegetation; it is then able to withstand competition from most any other vegetation.

Almost no grain is fed to beef cattle in Mexico, other than occasionally to highly valued breeding stock. Salt is used freely and is readily available. Where concentrates are fed, they may include corn, oats, wheat bran, cottonseed meal, or other vegetable-oil meals, depending upon availability and cost. Some ranchers feed cottonseed meal without other concentrates, and some feed it in a mixture with corn and oats. On the best ranches in the northern part of the country, bulls are conditioned by feeding them from 4 to 6 pounds of grain per day from January or February to May or June.

Little effort has been made to grow and save hay and forage that might be used for carrying livestock through a drought, except to a small extent for dairy cattle.

Equipment and Ranch Facilities

Further improvement of the cattle industry in Mexico is largely dependent on bettering the ranches and their equipment. Natural water supplies are scarce, and only the better ranches have wells and pumping equipment to assure an ample quantity for their stock. In limited areas there are sufficient springs and streams to furnish water throughout the year, but in those that suffer most from drought these are available for periods of from 6 to 8 months only; hence, other sources of water must be provided. Many improvements could be made by piping water from springs into tanks and reservoirs, constructing dams to store water for use during droughts, and by drilling wells. These means of supplying water are costly, however, and considerable time is required to develop and construct them. Pumping equipment on wells is usually operated by windmills or motors. Generally a fairly large sized tank or reservoir is necessary, especially if windmills are used, since they do not operate continuously or uniformly.

Only a few of the better ranches are fenced. The most common type of fencing is barbed wire, two to five strands being used for each fence. Other material required, such as posts and material for gates and corrals, is usually obtainable on the ranch or in its vicinity. In a few areas, stone fences are used. Corrals are constructed of various materials, including stone, organ cactus, and brush.

Many of the ranches have few buildings. Some of the older ones, which formerly were large haciendas, may have quite elaborate structures, but as a rule these have not been well preserved. The cowboys and other workers usually live in small shacks near the large hacienda dwelling. On some of the more recently developed ranches, where there are almost no buildings, the workers live in temporary shacks, tents, or adobe huts. No roofed enclosures are provided for the livestock, because the climate is mild and shelter unnecessary. Trees generally provide shade in which the stock take refuge during the hottest part of the year.

A few ranches, especially in the northern part of the country, have dipping vats. Salt and feed troughs are usually constructed of lumber or other material readily available. Miscellaneous pieces of equipment may include hand tools, shovels, spades, forks, branding irons, special knives, guns, vaccinating materials, saddles, office furniture and supplies, engines, motors, trucks, and automobiles.

In the past few years, many of the ranch owners have been in financial position to improve their property and purchase better equipment but have been prevented from doing so, because the war situation has made it difficult to obtain the articles and materials desired, most of which have to be imported.

Dehorning, Castrating, and Branding

Dehorning, castrating, and branding are most commonly done in the fall months, especially on ranches where the calves are born in the spring. In general, however, little dehorning is done. Many of the ranchers prefer to have the cattle keep their horns, because they can protect themselves more readily from predatory animals, such as mountain lions and coyotes. In some instances, the cattle to be sold are dehorned, but the breeding stock are not. On the more improved ranches, and especially those producing cattle for export, bull calves are castrated in the fall months, when the weather is cooler and there is less danger of infection. On the less improved ranches and those producing cattle for the domestic market, bulls are usually not castrated until they are at least 2 or 3 years of age. This results in high losses—as much as from 5 to 7 percent. The meat from such animals is often appropriately called "bull meat."

Nearly all ranchers, including the small ejidatarios, brand their cattle. Branding and the registration of brands by ranchers have been practiced for a long time and are considered necessary, because so little of the land is tenced. A few of the better ranchers use methods of marking breeding cattle of different ages, so as to facilitate handling.

Control of Diseases and Pests on Ranches

Since blackleg is prevalent in most parts of the country, nearly all ranchers vaccinate their calves against this disease. On many ranches this is the only preventive measure undertaken unless there is an outbreak of some other disease, or an infestation of some pest.

Outbreaks of anthrax occur occasionally, and usually the Government immediately orders a quarantine for a period of 60 days and requires vaccination. At the end of the period, the animals are thoroughly inspected before the quarantine is lifted. In a few areas ranchers have to vaccinate for anthrax every year, since all the cattle owners cannot be induced to take the precautions necessary to eliminate it.

A few ranchers also vaccinate for hemorrhagic septicemia, which is more prevalent in the subtropical and tropical regions than elsewhere. In the warmer areas a form of dysentery causes considerable loss among calves, but ranchers have not done much to control it.

Some of the better ranchers, especially in the northern part of the country, have seriously attempted to control cattle ticks. They have constructed dipping vats, in which they dip their cattle regularly. As a result of systematic programs carried on in some States, such as Chihuahua in northern Mexico, areas practically free of ticks have been maintained. In these States quarantine measures have been imposed, and areas free of disease and pests have been established. The movement of cattle into these areas is prohibited unless the animals are dipped twice in an arsenical solution. These sanitation programs have been carried on mostly under the direction of a Regional Livestock Union (Unión Ganadera Regional). If any infestation of pests, or outbreak of disease, is detected, movements of cattle from the affected area are restricted. The Livestock Unions, assisted financially by the State and Federal Governments, have built vats and corrals at major loading points and points of interstate movement, and ranchers are required to dip their cattle at these places. A sanitation campaign against scabies in the State of Chihuahua in 1940-41 was successful in eradicating this disease in that area.

On April 3, 1941, the Mexican Government imposed a quarantine on animals and animal products for the purpose of preventing the introduction of foot-and-mouth disease. This was in line with similar measures taken in the United States, and it aids in the interchange of livestock and livestock products between the two countries.

Since there are relatively few veterinarians in Mexico, they are not able to do all the inspecting and vaccinating that should be done. Most of the vaccinating is done by the ranchers, or their cowboys. Many of the ranchers never call a veterinarian. Usually the more improved ranches and those having highly valued cattle call them only occasionally.

DOMESTIC CONSUMPTION

Yearly slaughter of cattle in Mexico is estimated at around 1,500,000 head. Records are available on slaughter in the plants operating under Government supervision or control (table 3). These are located in or near the larger towns and cities.

Table 3.—Number, weight, and value of cattle slaughtered annually in controlled slaughterhouses in Mexico, 1924-43

	0.4887.5	DRESSED	WEIGHT	V A	LUE			DRESSEI	WEIGHT	VA	LUE
YEAR	CATTLE SLAUGH- TERED	TOTAL	AVERAGE PER HEAD	TOTAL	AVERAGE PER HEAD		CATTLE SLAUGH- TERED	TOTAL	AVERAGE PER HEAD	TOTAL	AVERAGE PER HEAD
	Number	1,000 pounds	Pounds	1,000 dollars	Dollars		Number	1,000 pounds	Pounds	1,000 dollars	Dollars
1924	773,008	259,243	335	25,537	33.04	1934	992,907	311,722	314	14,174	14.28
1925	808,936	272,405	337	32,185	39.79	1935	1,020,402	317,606	311	16,038	15.72
1926	811,884	272,508	336	25,471	31.37	1936	1,069,092		311	18,693	17.48
1927	792,172	263,201	332	27,981	35.32	1937	1,123,066		307	22,466	20.00
1928	727,206	253,622	349	28,948	39.81	1938	1,091,873		304	19,172	17.56
1929	802,421	261,474	326	33,513	41.76		1,102,728		3 04	17,465	15.84
1930	857,482	257,599	300	29,169	34.02	1940				17,601	15.98
1931	858,041	256,494	299	19,037	22.19	1941	1,094,073	340,661	311	20,986	19.18
1932	871,166	255,784	294	14,202	16.30	1942	1,089,823	340,053	312	25,211	23.13
1933	003 967	283,785	314	12,343	13.65	1943	1,005,308	310,090	308	32,751	32.58
	Average 1938-42 1,096,055 337,262 308 20,087 18.33									18.33	

The slaughterhouses that are required to report the number and weight of cattle handled probably slaughter about a half or two-thirds of all the cattle killed for consumption. The others are slaughtered by butchers in the small villages and on farms and ranches. From 1930 to 1940 the number of cattle slaughtered increased by about 28 percent, whereas total cattle numbers increased by only about 17 percent.

Meat Consumption

Based on rough estimates of the total slaughter of livestock, the per capita consumption of meat in Mexico in 1940 was about 37.2 pounds (table 4). Because of the difficulty in estimating the number of animals slaughtered outside the controlled slaughterhouses, the margin of error in these estimates may be large. The principal meats consumed are beef, mutton, goat, and pork. Beef comprises about two-thirds of the total. The yearly per capita consumption of mutton is less than 1 pound and that of goat meat less than 2 pounds. Consumption of both pork and beef has increased since 1930, the greatest increase being in pork.

Meat consumption per capita is greatest in the more densely populated areas. Consumption in the Federal District in 1940, for example, was about 77.5 pounds, or approximately twice the national average.

In comparison with some of the important livestock-producing countries, such as the United States, Canada, Argentina, New Zealand, and Australia, meat consumption per capita in Mexico is relatively small. By increasing production and reducing exports, larger supplies can be made available for local use. Since there are some indications that consumer purchasing power is increasing, this may eventually result in further expansion in production and a greater diversion to home use.

Mexico, in the past 15 or 20 years, has not imported large numbers of cattle for slaughter. Such imports as are received come from the Central American countries, but these account for only a small part of the total slaughter supply. Small quantities of high-quality fresh meat are imported from the United States and sold to those in the higher income groups, and some cured ham and bacon are imported.

TABLE 4.—Apparent consumption of meats in the Republic of Mexico and in the Federal District, 1930, 1940, 1942, and 1943

	CONSUMPTION OF									
AREA AND YEAR	BE	BEEF 1		TTON GO		AT	P(PORK		ATS
	TOTAL	PER CAPITA	TOTAL	PER CAPITA	TOTAL	PER CAPITA	TOTAL	PER CAPITA	TOTAL	PER CAPITA
Federal District	1,000 pounds	Pounds	1,000 pounds	Pounds	1,000 pounds	Pounds	1,000 pounds	Pounds	1,000 pounds	Pounds
1930 · · · · · · · · · · · · · · · · · · ·	61,230 92,221 85,256	51.9 46.8	3,512 3,889 2,531	2.2	4,107 1,585 1.495	.9	22,002 39,976 47,480		90,851 137,671 136,762	
Republic of Mexico ¹	68,497 386,398		2,987		2,198		46,817		120,499 561,117	
1940	506,831 510,078 466,348	25.6 24.7	15,393 13.148 14,314	.8	26,061 19,874 21,698	1.3	186,033 215,023 216,289	9.4	734,318 758,123 718,649	37.2 36.8

¹Total slaughter was estimated to be 150 percent of recorded slaughterings. Further adjustments were necessary in estimating the 1942 and 1943 totals because of a change in the requirements for reports from slaughterhouses.

Compiled from official statistics. Population figures used in computing per capita consumption figures for the Federal District were as follows: 1930--1,235,229; 1940--1,777,445; 1942--1,820,463; 1943--1,840,961. For the Republic of Mexico: 1930--16,588,522; 1940--19,762,603; 1942--20,623,661; 1943--21,047,683 (calculated).

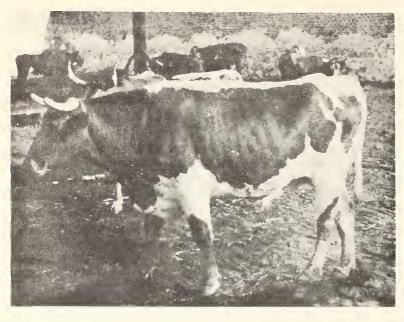


FIGURE 4.-Typical animal of the kind commonly slaughtered for beef in the larger cities of Mexico.

Quality and Condition of Meat Consumed

Most of the meat used in Mexico is consumed as fresh meat. Slaughtering in the cities is usually done early in the morning, and the meat is delivered to the retail shops by the middle of the forenoon and sold to customers that day. Most of this meat is handled without refrigeration.

The general practice is not to slaughter cattle until they have reached maturity, and as a rule they are not well finished. Consequently, the average quality of the meat is relatively low as compared with that produced in the United States.

EXPORTS Cattle

The cattle industry in northern Mexico depends largely on the export market in the United States as an outlet for its production. During the period 1939-43, yearly exports averaged 499,831 head with an average value of \$11.53. In 1941 the total was 542,705 head. (See table 5.) During the first 6 months of 1943, cattle prices in the United States were exceptionally attractive, and exports during that period probably were larger than in any other similar period. The increase in shipments was so Table 5.-Number and value of cattle exported from Mexico, 1930-43

CATTLE EXPORTED YEAR VALUE VOLUME TOTAL PER HEAD Number Dollars Dollars 22.02 176,085 3,877,205 1930 5.54 121,396 112,543 1931 672,335 1932 598,018 5.31 68,471 1933 396,086 5.78 60,413 6.02 1934 363,692 264,727 7.36 1935 1,948,894 176,787 1,193,792 6.75 1936 192,928 1937 1,305,843 6.77 293,169 6.58 1938 1,929,376 1939 541,187 3,581,768 6.62 3,209,389 417,996 7.68 1940 8.90 1941 542,705 4,831,057 7,347,076 13.95 1942 526,559 1943 20.92 470,710 9,848,452 Average: 1931-40 224,962 1,519,919 6.76 11.53 1939-43 499,831 5,763,548

Table 6.-Numbers of cattle exported from Mexico through specified shipping points, 1939-43

EXPORT POINT	1939	1940	1941	1942	1943	AVERAGE 1939-43
Agua Prieta Ciudad Juarez Matamoros Mexicali Naco Nogales Nuevo Laredo Ojinaga Palomas Piedras Negras Reynosa San Pedro Roma Sásabe Senoyte Tecate Villa Acuña Others	Number 52,029 202,656 37,903 79,445 27,338 26,158 20,506 44,620 14,787 14,871 20,874	Number 26,926 153,487 2,194 33,668 64,371 19,679 34,682 15,365 43,888 719 7,183 8,128 7,702	Number 39,021 218,722 2,320 2,308 44,590 69,598 25,611 31,305 22,738 60,444 1,862 1,241 10,567 1,020 10,990 368	Number 47,425 198,230 2,798 93,872 23,363 37,613 15,692 49,483 1,958 3,458 3,458 2,188	Number 34,778 153,344 1,877 26,866 122,925 19,448 31,287 17,263 46,769 1,645 1,520 12,261 727	Number 40,036 185,288 1,399 919 35,074 87,042 23,088 32,209 18,313 49,237 1,244 4,516 2,543 11,644 5,934
TOTAL	541,187	417,992	542,705	526,559	470,710	499,831

Compiled from official statistics.

great that it caused the Mexican Government to take action to restrict the total exported to a yearly maximum of 500,000 head, so as to avoid an undue reduction in supplies for domestic consumption. Other action taken was to prohibit the exportation of cows and female stock 1 year old or older and of all cattle from central and southern Mexico.

Cattle move across the border into the United States at nearly every port, but more than half the total pass through the ports of Ciudad Juárez-El Paso and Nogales (table 6). Shipments are made in every month, but the largest movement usually occurs during February, March, and April (table 7). During these months, cattle usually are in their best condition, because this period immediately follows the rainy season; also, the spring pasture season is then starting in the southern part of the United States, and stocker cattle are in demand there for grazing. Exports generally are smallest during June, July, August, and September, when cattle are in poorest condition and the demand for stockers in the United States is less active.

During the 5 years 1939-43, about 90 percent of the cattle exported were steers, and since 1940 about 30 percent were steers under 1 year of age. Steers over 2 years of age comprised a relatively small proportion of the total.

TABLE 7.-Exports of live cattle from Mexico, by months, 1939-43

MONTH	1939	1940	1941	1942	1943	AVERAGE 1939-43
	Number	Number	Number	Number	Number	Number
January	79,124	41,798	54,284	75,323	35,868	57,279
February	79,113	36,090	73,528	49,094	107,860	69,137
March	118, 234	41,915	74,101	43,771	98.042	75,213
April	70,901	60,491	65,215	51,902	96,589	69,020
May	18,878	57,833	62,627	53,351	68.056	52,149
June	13,099	18,407	24,785	22,625	29,511	21,685
Total (6 months)	379,349	256,534	354,540	296,066	435,926	344,483
July	5,524	18,470	13,749	17,410	7,539	12,538
August	16,795	10,092	11.041	12,506	3,605	10,808
September	33,304	8,379	27,022	22,025	3,656	18,877
October	28,875	30,212	26,360	29,711	3.073	23.644
November	34,382	37.795	53,703	64,616	6,727	39,445
Oecember	42,958	56,514	56,290	84,225	10,184	50,234
Annual total	541,187	417,996	542,705	526,559	470,710	499,831

When selling for export, ranchers prefer to dispose of cattle at weights ranging from 300 to 400 pounds. The older cattle will weigh 500 pounds or more. The younger animals exported are mostly of Hereford breeding, whereas the older and larger animals are usually of the criollo type, or mixed breeding.

Meat

Exports of meat from Mexico have always been relatively small. Since the country does not have a system of meat inspection that meets United States requirements, fresh meat cannot be exported to the United States for general distribution. About the only meat that passes into the United States is that brought in by consumers living in border towns. Mexico does not export any great amount of meat to the Central American countries.

PRICES

Cattle prices in Mexico City have more than trebled since 1939 (table 8). In January of that year they averaged 2.3 cents a pound, and in May 1944 the average was 8.6 cents. In comparing these prices with those in the United States, consideration needs to be given to the differences in grade of the cattle sold in the two countries. Cattle usually offered for sale in Mexico City are relatively low in quality.

Wholesale prices of beef also have advanced since the war began. Part of the rise in cattle and beef prices in Mexico reflects the general rise in prices of all commodities as a result of the war and the increase in consumer purchasing power. A shortage of cattle for slaughter in the Federal District since the early part of 1943 also has been a factor in the price advance. Reasons commonly given as an explanation of this shortage are transportation difficulties, labor troubles in the slaughterhouses, general rise in costs, droughts, and the increase in cattle exports.

Although prices of meat have been fixed in the Federal District by official order for more than 2 years, there have been several increases during that period. Partly because of the scarcity of beef in the Federal District, considerable difficulty has been experienced with black-market operations.

In general, cattle prices tend to be lowest in January, February, and March, the months of heaviest marketings. Prices of cattle for export are influenced by the level of cattle prices in the United States. When stockers and feeders are in strong demand, prices for Mexican cattle rise. Prices of light-weight stocker steers at border points since 1941 have ranged between 6 and 8 cents a pound; those of yearlings, between 7 and 10 cents; and those of calves, between 9 and 15 cents.

Table 8.-Prices of live cattle in Mexico City by months, 1939-44

MONTH	1939	1940	1941	1942	AVERAGE 1939-42	1943	1944
	Cts. per lb.	Cts. per lb.	Cts. per lb.				
January	2.3	2.3	2.5	3.7	2.7	5.2	6.9
February	2.4	2.3	2.8	3.7	2.8	5.2	6.9
March	2.5	2.3	2.9	3.7	2.8	5.6	6.9
April	2.5	2.3	2.7	3.7	2.8	6.9	8.0
May	3.0	2.0	2.5	4.9	3.1	6.9	8.6
June	3.1	2.3	2.5	5.0	3.2	6.9	
July	2.7	2.4	3.7	5.1	3.5	6.9	
August	2.7	2.5	3.7	5.0	3.5	6.9	~~
September	2.9	2.4	3.7	4.7	3.4	6.9	
October	2.8	2.5	3.7	4.5	3.4	6.9	
November	2.9	2.5	3.7	4.6	3.4	6.9	
December	2.6	2.5	3.7	5.2	3.5	6.9	
Yearly average	2.7	2.4	3.2	4.5	3.2	6.5	

METHODS OF EXPORT SELLING

Operators of the larger ranches in northern Mexico usually maintain contact with buyers in the United States. When the rancher is ready to sell his cattle, he notifies prospective buyers, who in turn make offers as to prices and the kind and number of cattle desired. The smaller producers often sell to dealers who make a business of buying cattle and finding an outlet for them in the United States. A few ranchers and producers occasionally assume the risk of sending their cattle to border points



FIGURE 5.-Typical high-grade Hereford calves at Ciudad Juarez.

and there contacting prospective buyers. Commission buyers, located along the border, often have contracts or orders to purchase cattle for customers in the United States. Nearly every rancher, large or small, usually has an opportunity to sell his cattle to more than one buyer and thus to obtain current market prices for them.

Permits and Documents Required for Exports

In selling cattle for export, the Mexican rancher must obtain various official documents and permits. Most of these have been required for some time, but some became effective on February 8, 1943, when the Government initiated control of exports. These documents are as follows:

- (1) Permit for the cattle to leave the place of origin and, in some cases, to cross through certain areas. These are obtained from the municipality president (a municipality is somewhat similar to a county in the United States).
- (2) Sanitary certificate from a local veterinarian, which is required in shipping from disease-infected, or pest-infested, areas to those free of plagues.
- (3) Tax receipts from the State government, the cattle association, or other organizations requiring tax payment.
 - (4) Stamped purchase receipt if cattle have been purchased from a third party.
- (5) Special export permits from the President of Mexico if the animals to be exported are females over 1 year of age.
- (6) Export permit from cattle association or special Government representatives, required in order to check the number exported. This is valid for 15 days from date of issue, after which it may be canceled. The exporter must present a customs receipt within 6 days after exportation, setting forth the exact number of cattle exported. The cattle association, or Government representative, keeps records of exports.
- (7) Bill of sale carrying necessary federal stamps, according to invoice values, must be given to the customs broker, who in turn presents it to the customs officials.

(8) Permit for slaughtering cattle and exporting meat obtained from the cattle association or Government representatives. These are valid for a 10-day period, and a daily report of the number slaughtered must be made. Likewise, a special permit must be obtained from the President of Mexico for slaughtering females of more than 1 year of age if the meat is to be exported.

Arrangement for Export Shipment

When the rancher, or shipper, is ready to ship cattle, he notifies a customs broker, who in turn orders the required number of railroad cars to take care of the shipment. These cars are to be at the designated shipping point on the date specified. After the cars are loaded, the shipper telegraphs the customs broker as to the number of cars, the time of departure from the shipping point, and the time they are likely to arrive at the border. The shipper, or his representative, may accompany the shipment. Upon arrival at the border, the required documents and permits are presented to the Mexican customs broker, who then takes charge of handling the cattle and clearing them through the Mexican customs. The customs broker orders the cattle unloaded on the Mexican side and notifies the Mexican and the United States veterinary inspectors of their arrival. Each inspector, or group of inspectors, examines the cattle for diseases and pests on the Mexican side. If found to be free from communicable disease, or if they have not been exposed to communicable disease within 60 days, the required certificate is issued stating that fact. If the cattle have a communicable disease, or have been exposed to a communicable disease within 60 days, such as scabies or splenetic fever, they are prohibited from entry. One exception to this is that cattle which have been infested with fever ticks may be imported into Texas upon being freed therefrom. Such cattle, when presented for entry, must be shown to have been last dipped 7 to 14 days previously. If they are then found to be apparently free of fever ticks, they are subject to a further precautionary dipping under the supervision of a United States Inspector. Inspectors test the dipping solution in order to be sure that the correct strength is used. At all border points in the tick-infested area along the Rio Grande, this dipping takes place on the Mexican side. At points outside tick-infested areas, if the cattle are found to be free of communicable disease, they are permitted to cross, and the precautionary dipping is accomplished on the United States side. The dipping is in arsenical solution (usually 0.22 percent), or in lime-sulfur solution (2 percent), depending on the origin of the cattle, the former being used for fever ticks and the latter for scabies.

When a tick is found, it is immediately sent to Washington by air mail for identification, since there is some difficulty in distinguishing between fever ticks and wood ticks.

There are some private stockyards at entry points on the Mexican side of the border, where cattle can be held before being exported. Most of these yards are equipped with dipping vats for using either lime-sulfur or arsenical solution, as desired. These vats are emptied and cleaned at intervals and the solutions renewed; otherwise they would accumulate excessive sediment.

Mexican Customhouse Clearance

After the cattle have been inspected and the number in the shipment has been verified by the Mexican customs inspector, the customs broker prepares the various documents required in paying the necessary fees and charges, including inspection fees, export tax (aforo), etc. The broker pays these expenses, and the customs

officials issue a certificate for passing the cattle across the border. They may be driven across or shipped by rail, but the cost of driving usually is slightly less than shipping by rail.

Procedure in the United States

Upon arrival in the United States, the importer (or his agent or broker) assumes responsibility for the cattle and has them delivered to a nearby stockyard. A United States customs officer accompanies the animals to the stockyard, where they usually are immediately weighed. They are generally divided into three groups, according to weight--under 200 pounds, 200 to 700 pounds, and over 700 pounds. This division is always required when tariff rates and quotas are applied according to the weight of an animal, but during the present emergency there are no quotas, and a uniform rate of 1.5 cents per pound applies to all weights.

If dipping is required after the cattle enter the United States, the animals must be allowed to drink freely beforehand. In most cases the cattle are dipped the day after they cross the border. A minimum of four bales of alfalfa is usually given to each carload of cattle.

Methods of transferring cattle from seller to buyer vary. Ordinarily the seller sells the cattle on a duty-paid basis at the United States stockyard. Duty is not paid on dead animals. Cattle dying in cars while en route across the border, or while being dipped after arrival are inspected by a customs officer, who uses some method of marking them to avoid duplicate counting later. Usually 48 hours are allowed for complying with all the requirements in making proper entry after the cattle cross the border, and sometimes an extension is permitted.

Cattle may be entered under consumption entry or bonded-warehouse entry. Under the first designation, a consumption-entry bond must be posted with the collector of customs to ensure compliance with all import regulations. This is furnished by the importer (or his agent or broker). The amount of the bond is the estimated value of the cattle plus duty.

In making settlement, the buyer and the seller, or their representatives, usually meet at the bank where the buyer has his funds, and all details of payment are arranged, including the payment of duties, fees to the customs broker (if one is employed), and all other charges and expenses incurred. The importer, his representative, or broker, pays the duty, usually in the form of a certified check if the amount is more than \$100. Upon the receipt of the required duty, the collector of customs releases the cattle to the buyer.

As previously indicated, cattle may also be entered for warehousing. Suitable stables, feeding pens, corral's, or other similar buildings or limited enclosures can be made bonded warehouses in which imported cattle or other animals may be warehoused. Until the latter part of 1943, pastures could be bonded as customs warehouses for the storage of imported cattle or other animals. This was discontinued by United States Treasury Decision 50974 of November 30, 1943, because it became clear that the operation of such pastures could not be permitted without prejudice to the revenue.

In order to warehouse imported cattle, a warehouse-entry bond must be given to the collector of customs amounting to twice the amount of the required duty. Then the cattle can be placed in a bonded warehouse for a period not to exceed 3 years. The cattle must be accompanied to the warehouse by a customs inspector. All services of the customs inspector in this connection must be paid by the importer. If the importer wishes to sell some of the cattle from the warehouse, he pays the required

duties on that number and arranges for their withdrawal. If any of the cattle die, the importer can have them inspected by a customs officer to verify the fact of death, so that a claim may be made for an abatement of the duty. If the cattle are returned to Mexico within a 3-year period, the duty does not need to be paid.

Export Expenses

There are a number of items of expense incurred in exporting cattle from Mexico to the United States, most of which are more or less fixed. The most important of these are the United States tariff duty and the export tax (aforo) of Mexico. The United States tariff rate on cattle since the Trade Agreement between the two countries became effective on January 30, 1943, has been 1.5 cents per pound. Under this agreement quota limitations previously imposed were removed for the duration of the national emergency. Prior to the Agreement the rate of 1.5 cents applied only to cattle weighing less than 200 pounds and on those weighing 700 pounds or more, and numbers brought in at this rate could not exceed specified quotas. Imports of calves under 200 pounds were limited to 100,000 head annually, and imports of cattle weighing 700 pounds or more could not exceed 225,000 head. Imports in excess of these quotas were dutiable at the rate of 2.5 cents a pound for calves and 3.0 cents a pound for cattle weighing 700 pounds and over. Cattle weighing between 200 and 700 pounds were dutiable at a rate of 2.5 cents a pound. The Trade Agreement provides that, upon the termination of the national emergency, quota restrictions on imports at the tariff rate of 1.5 cents a pound will be imposed. These quotas will be 100,000 head of calves, 400,000 head of cattle weighing 200 to 700 pounds, and 225,000 head of cattle weighing 700 pounds and over. Imports in excess of these quotas will be dutiable at 2.5 cents a pound.

The aforo or Mexican export tax amounts to 12 percent of the official valuation of the cattle. At present the official valuation is fixed at \$34.85 per head for all classes and weights, and the tax is \$4.18 per head. The aforo can be changed by the Mexican Government by changing the official valuation, which is frequently done.

Expenses incurred in exporting cattle are roughly as follows:

Expenses Usually Incurred in Mexico

Sales tax	per head
Stamp tax 8.80	per \$1,000 valuation
Other certificates & incidentals	per head
	per head
Freight to destination	to 1.00 per head
Customs clearance	per head
Customs broker's fee	to .80 per metric ton
	per car for each operation
Aforo (export tax) 4.18	per head
Crossing border	per car
•	

Tariff	pound
Customs broker's fees 6.00 per's	shipment
Oipping	le ≧d
Weighing	ar
Unloading	ar
Bedding car 1.21 per c	ar
Alfalfa	ale (4 bales per car)
Cleaning car	ar

Expenses Usually Incurred in the United States

METHODS OF MARKETING CATTLE FOR DOMESTIC USE

Some cattle are slaughtered each year on ranches and farms for home use and to a limited extent for nearby sale to distributors and consumers. Many of the larger ranch operators take their cattle to the cities where they have them slaughtered and then sell the meat to local distributors. In general, however, most of the cattle marketed for domestic slaughter are sold to livestock buyers, who take the animals to the larger markets for slaughtering.

When the cattle do not move any great distance to market, they usually are driven rather than transported by rail or truck. Most of the cattle sent to Mexico City are transported by rail. Railroads, during the war period, have been heavily burdened with traffic, thus making it more difficult to move cattle to Mexico City. Reports state that some cattle have been driven to that market from the Huasteca area of Tamaulipas, San Luis Potosí, Veracruz, and Hidalgo, requiring about 17 days for the trip. The railroads in Mexico are not well equipped with feeding and watering facilities for taking care of livestock en route, and frequently cattle that have been in transit for a long period arrive at destination in poor condition.

Slaughtering Facilities

Methods of slaughtering livestock and distributing meats are about the same in all parts of Mexico. Most of the cities have slaughterhouses, but few of these are equipped with modern facilities. Some new plants are being constructed, and some of the older ones are being rebuilt. In the Federal District, there are 11 slaughterhouses in operation. Most of the cattle reaching Mexico City are slaughtered in the general slaughterhouse, which is the largest plant located there. The methods of this plant compare well with those of small slaughterhouses in the United States.

Prior to 1939, most of the slaughterhouses in Mexico were operated by the Government. In 1939, arrangements were made whereby the operation of the slaughterhouses was turned over to the plant workers. Their organization is known as the Administracion Obreros de los Rastros del Distrito Federal. It usually does not buy livestock but only operates the slaughterhouses and the stockyards for fixed fees.

Ranchers in the Federal District are required to sell their cattle to members of the Productores de Ganado y Abastecedores de Carne del Distrito Federal, S. de R. L. y I. P. E. C. (Livestock Producers and Meat Suppliers of the Federal District). This organization was established July 9, 1942, and on October 5, 1943, it was given the exclusive right to slaughter cattle in the Federal District. Its membership is small, and any rancher who is not a member and who wishes to sell cattle in the Federal District must sell them to this organization. It was established by the Government for the control of livestock, meat prices, and meat distribution, but its operations are limited to the Federal District and to the handling of cattle.

A member may deliver cattle to a slaughterhouse in the Federal District, but before the animals are accepted for slaughter he must pay the slaughtering and inspection fees. After they are slaughtered, the carcasses are delivered to a large room where the owner takes possession. If he is the owner of a butcher shop, he sends the meat there, and it is prepared for retailing; or he may sell to retailers who come to the slaughterhouse. A retailer may deliver the meat to his shop in his own truck, provided he is a member of the Cooperative of Meat Transporters, which has the exclusive right to transport all beef in the Federal District. The transportation of other types of meat is, however, not under the control of the cooperative.

Inspection of Meat

Each political division of Mexico has a health department. In the Federal District, this department maintains inspectors at the slaughterhouses, most of whom are veterinarians, who are, however, employed only part time for this work. The department also maintains inspectors for the markets and shops where meat is sold.

If meat is condemned in the slaughterhouse, the original owner of the animal assumes the loss. If not totally unfit for food, the meat may be cooked in a special place at the general slaughterhouse and sold in some of the shops as cooked meat. Meat condemned in the markets or butcher shops is returned to the slaughterhouse for further processing or disposition.

Since there is little or no refrigeration, the possibilities of deterioration of meat are great. There is a refrigeration plant at the general slaughterhouse in the Federal District, but it is also used for such products as fruits and vegetables. Sanitation and health conditions could be greatly improved if refrigeration systems were installed and the people educated in the handling of meat under refrigeration.

LIVESTOCK CREDIT AND FINANCE

Lack of adequate capital is one of the limiting factors in cattle production in Mexico, especially among small producers, to whom it should be made more plentiful if cattle and methods of production are to be improved. Ranch operations are financed mostly by individuals rather than by commercial banks. Three Bancos de Crédito Ganadero (Livestock Credit Banks) are in operation, at Tampico, Chihuahua City, and at Hėrmosillo, and other institutions of this kind are being planned. The first organized was the one at Tampico, which began operating in 1940. Cattlemen operate these banks under Government supervision on capital supplied by individuals. All employ veterinarians familiar with ranching and livestock conditions to serve their patrons. Plans are being made for organizing a National Livestock Credit Bank at Mexico City, which would federate all the livestock credit banks in operation.

The credit available at other banks has been unsatisfactory because of unwillingness to make long-time loans and high interest rates, which have been reported to be in some cases as high as 10 percent per month. Conditions are more favorable at present, however, because of high returns from the cattle business in recent years. In those sections where the livestock credit banks are located other banks are making loans on easier terms, but interest rates are still high in comparison with those in the United States and usually range from 8 to 12 percent per annum, even for the purchase of land. Loans are made for all phases of cattle production, including feeding operations, such as in the Huasteca area, and for purchasing cattle. Normally credit institutions are more cautious in making loans to cattle traders, but since most of these have made good profits in recent years, they are considered safer risks. Loans are usually subject to repayment when the cattle are sold, the integrity and reputation of the borrower being generally considered more important than the collateral or security he offers. Most bankers do not often make a close inspection of the land, cattle, equipment, or other security on which a loan is made, but few loans have been foreclosed or defaulted in recent years.

LIVESTOCK ORGANIZATIONS

In 1934, the livestock producers began organizing a type of local association, Asociación Ganadera Local, which usually includes members from several municipalities. These associations sometimes are grouped into a Unión Ganadera Regional, or

regional union. The unions are organized into a Confederación National Ganadera (Confederation of Livestock Producers). By the end of 1943, about 330 local associations and 20 unions had been formed. Membership in each local association ranges from about 10 to 150 members, and a union will include 3 to 60 local associations. Because of isolated location and inadequate transportation facilities, some local associations have not combined into unions.

The purposes of these organizations, as outlined in the original law that provided for their creation are: (1) To promote scientific and economic practices among livestock men in order to increase their economic returns; (2) to adjust production in accordance with consumer demand; (3) to improve the distribution of livestock and meat products in domestic and foreign markets; (4) to standardize livestock products so as to facilitate merchandizing them; (5) to study, promote, and develop programs to improve the livestock industry; (6) to improve credit facilities; (7) to promote improvement in meat packing, pasteurization, refrigeration, etc.; (8) to improve the economic condition of the small livestock producers through improvement of methods and means of production; (9) to promote the organization of cooperative societies of livestock producers in order to realize the highest economic returns for the industry; and (10) to represent before all authorities the common interest of the societies and to promote their interest.

While all these objectives have not been fully attained, much progress has been made. The union in the State of Chihuahua and that in the State of Sonora have been the most active and probably the most successful. They are organized somewhat like the Livestock Associations in the United States, and they cooperate closely with such associations in the States adjoining Mexico.

The dues and fees vary with each association and union but are quite nominal. Members of the Chihuahua Union pay fees in proportion to the size of their ranches and the number of cattle owned. In addition to fees and dues, the unions, especially those in the northern part of the country, collect a tax on all cattle bought and sold, amounting, in the State of Chihuahua, to about 89 cents per head on cattle owned or purchased by members and about \$1.09 for nonmembers. Purchases and sales of breeding animals are sometimes exempted from this tax. Most of the tax collected is used for the benefit of the cattle industry. The Chihuahua Union is using about 20 percent of the tax collected to construct vats for dipping cattle that come into the State from tick-infested areas. The Government has encouraged the promotion of these organizations and has granted special privileges to ranchers who become members.

EDUCATIONAL AND EXTENSION ACTIVITIES

About the only general educational work among livestock producers in Mexico is that carried on by the Mexican Government Livestock Service and the Livestock Associations. Thus far this work has been largely confined to disease and pest control. More instruction is needed in all phases of livestock production. There are fewer than 400 registered veterinarians in the country, and 5,000 are said to be needed. Although they may have some private practice, most of the veterinarians are employed by the Department of Health, the Mexican Livestock Service, and the Mexican Army. The Veterinary College of the University of Mexico has trained most of the technical employees in the Mexican Livestock Service, and some educational work is done by the Agricultural College at Chapingo, near Mexico City, and other colleges, particularly those in northern Mexico. Graduates of these institutions, however, usually enter fields of work not closely related to animal husbandry.

By Lucille Corder*

Tanganyika Territory, mandate of the British Government since World War I, has recently enacted legislation to ensure the income of agricultural producers and to increase crop production. The measure, the Increased Production of Crops Act, 1944, is an example of an interventionist policy in a country with agricultural resources as yet largely undeveloped.

The Tanganyika Territory in British East Africa, bordering on the Indian Ocean, has a total area of 360,000 square miles (larger than Texas and Oklahoma combined). The 1937 census gave the population as 9,107 Europeans, 32,798 Asiatics, mostly Indians, and 5,140,389 natives. Of the European employed population, 1,908 were engaged in agriculture, 1,334 in commerce, and 130 in manufacturing.

Since no statistics of total production are available, export figures provide the best measure of the importance of various crops in the Territory's economy. In 1937 Tanganyika exported over 90,000 tons of sisal, the value of which exceeded \$10,000,000; cotton exports were valued at almost \$3,000,000; and coffee exports amounted to \$2,100,000. Other agricultural exports included hides and skins, rice and other grains, ghee, sesame, beeswax, peanuts, copra, and tebacco.

The Government of Tanganyika, since 1940, had resorted to producer subsidies and guaranteed minimum prices in order to assist a shift from those export crops not readily marketable abroad to food and essential wartime export crops. This latest measure is intended to assist in the accomplishment of these purposes, as well as to lay the foundation for expanded post-war production, and will affect some 2,000,000 acres.

The Act, sponsored by the Tanganyika Department of Agriculture, was passed by the Territory's Legislative Council and became law on April 27, 1944. It expires December 31, 1946, unless extended by proclamation of the Governor with approval of the Legislative Council. The new law empowers the Director of Agriculture to direct the production and disposal of crops and provides for a guaranteed minimum return to nonnative producers. It is an outgrowth of District Production Committees set up in 1942 for the purpose of encouraging farmers to grow more food and to assist them in obtaining agricultural equipment through loans bearing no interest.

Government subsidies are provided for breaking virgin land, building irrigation systems, using specified fertilizers, and such replanting of acreages as may be required as a result of pests, hail, etc., provided such operations are approved by the Director of Agriculture. After the operation involving the additional expense has been successfully completed, the payments are made by the Accountant General.

Each nonnative (white and Asiatic) farmer is required to submit to his District Production Committee a program of his intended production. He may at the same time apply for any Government grants needed to carry out his program. After the Committee has considered the program, it is forwarded to the Director, who may modify, vary, or reject it as he sees fit. Decisions by the Director are final and conclusive. He may submit an order in writing to any farmer requiring him to carry out any operation connected with crop cultivation. If the farmer cannot carry out the order, he may appeal to the Director through the Committee, and his case will be reconsidered. Otherwise noncompliance represents a violation of the Act.

^{*} Office of Foreign Agricultural Relations.

If a farmer wishes to expand his production program, he must notify the District Production Committee and obtain the consent of the Director. The Director is also authorized to take possession of certain lands not being cultivated and cause them to be cultivated. Furthermore, lands may be taken over when the Committee and the Director consider such action to be in the interest of increased production or in the interest of the Territory. Proceeds from crops so obtained revert to the Treasury.

Immediately after harvesting, the farmer must report to the Director the returns from his crops, at the same time stating what quantities he wishes to retain for his own use and how much he wants to sell. The crops must be disposed of as prescribed by the Director, or his agents, and until then are held in trust by the Tanganyika Government. The Director of Agriculture has stated that farmers will not be requested to store crops any longer than absolutely necessary.

Official minimum prices are established by the Director and published in the official gazette. A minimum monetary return per acre cultivated is also guaranteed. At the end of the planting year, if the farmer can prove that the total value of his crop did not equal or exceed the guaranteed minimum monetary return per acre and the failure to obtain this amount was not due to default or neglect, he is paid the amount of the guaranteed minimum return less the market price received for his crop, provided he has carried out the terms of his order. This phase of the law is believed to be a guaranty to producers against loss and not an aid to greater profits.

The passage of this legislation was an outgrowth not only of Tanganyika's wartime policy but also of the pre-war success of district extension work and the benefits so obtained. The hope is that the act will provide a means whereby officials and producers will cooperate in such measures as are necessary to nullify the effects of wartime conditions on the economy of the country and to assure a maximum contribution to the war effort of the United Nations.

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CANADIAN ACT TO SUPPORT AGRICULTURAL PRICES

Entitled "An Act for the Support of the Prices of Agricultural Products during the transition from War to Peace," the price-supporting legislation earlier promised by the Canadian Minister of Agriculture became law on August 15, 1944. It provides the authority and creates the machinery by which the Government may support the prices of agricultural products. 1

A. Minimum prices may be prescribed at which the Government will purchase agricultural products in the market, and such products may be sold or disposed of otherwise. This method, similar to that formerly used by the United States Federal Farm Board, and still used by the Canadian Wheat Board, would have the character of an export subsidy if products were sold abroad at a price below that paid to producers.

B. Without engaging in trade, the Government may, as an alternative method of assisting producers, make subsidy payments to cover the difference between a price which it prescribes and the average price at which the domestic product is sold in the market. Under this procedure, there would be a single or competitive price and no dumping of goods in the foreign market. Under either method, however, agricultural producers would be subsidized by the Government if their products were sold below the cost of production.

The Agricultural Prices Support Board, referred to as "the Board," is established to carry out the purposes of the Act. The Board may appoint Commodity Boards and an

See also OGDON, MONTELL. CANADIAN ACRICULTURAL POLICY. Foreign Agr. 8: 147-158, illus. 1944.

advisory committee or committees to assist in the performance of its functions. Policy decisions will be made by the Board with the approval of the Governor in Council. Operations will be carried out by commodity boards acting under the direction of the general board. An amount not to exceed \$200,000,000 (Canadian) is made available in the Dominion Treasury for purposes of the Act, other than administrative duties.

The Board members were appointed soon after the Act became law and will have the responsibility of making a study of the conditions existing during the period that Canada has had ceiling prices on farm products and to relate that to conditions existing in Canada affecting other industries, as well as people engaged in other activities. A function of the Board will also be to study conditions after the war ends and from time to time to submit to the Minister of Agriculture, and through him to the Government, recommendations as to which farm products should have floor prices placed under them, the method by which that should be done, and the level at which these prices should be established.

When the Government deems it necessary to aid producers of a certain product, such as meat or cheese, the appropriate commodity board will be established. A new board is not expected to be necessary for the handling of wheat, oats, or barley. The Wheat Board, in existence since 1935, already purchases wheat at a guaranteed price; and, if the Government should find the purchase of oats or barley necessary, they also could be taken care of by the Wheat Board, although additional revenue might be required. The Act applies to processed as well as raw products.

To carry out the purposes of the Act, the Board may sell or otherwise dispose of products purchased by it. Among various methods of disposing of products, the Board has authority, specifically mentioned in the Act, "to purchase at market or contract prices and export any agricultural product under any contract between His Majesty in right of Canada and any other government or agency thereof...." Purchases might also be disposed of domestically by some such means as a food-stamp plan. The Board may also enter into contract, appoint agents to do anything authorized under the Act, and package, process, store, ship, transport, or insure any agricultural product.

In fixing price floors, the Board "shall endeavour to ensure adequate and stable returns for agriculture by promoting orderly adjustment from war to peace conditions and shall endeavour to secure a fair relationship between the returns from agriculture and those from other occupations." This standard is probably sufficiently flexible to permit prices to be fixed at a level that the Government considers reasonable in light of all the facts existing at the time. No provision was made, as is in the Wheat Act, for participation by farmers in any profits that might accrue to the Board from sales of Board stocks.

No mention is made in the Act of limitations on the quantity of a product that might be given the benefit of the price supports. The Minister of Agriculture indicated that further legislation would be necessary if marketing restrictions were to be used. He also indicated that the Government would purchase only Canadian products as it does through the Wartime Commodity Boards.

The Act contains no provision as to when it shall terminate. Its life is not necessarily limited, however, to a short post-war period of transition. The Government will have to determine how long the legislation should be retained. Apparently the intention is to give Canadian farmers a guaranty that their Government is equipped with the flexible machinery needed for coping with surplus and price problems during the post-war transition period.

² TAYLOR, CLIFFORD C. CANADIAN FLOOR PRICE LEGISLATION. U. S. Cons. Rpt. 235. 4pp., Aug 3, 1944. [Hectographed.]